

INTERNATIONAL SEARCH REPORT

International Application No

PCT/02/08630

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 B30B9/32 B30B9/30 B30B15/30

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 B30B B23Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

PAJ, WPI Data, EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
	PATENT ABSTRACTS OF JAPAN vol. 2002, no. 10, 10 October 2002 (2002-10-10) & JP 2002 178196 A (RICOH ELEMEX CORP), 25 June 2002 (2002-06-25) abstract; figures	1,4,6
Y	---	2,3,5,7
A	US 5 553 534 A (SOAVI FABIO) 10 September 1996 (1996-09-10) abstract; figures	1,4,6
Y	---	2,3,7
A	US 2002/062745 A1 (MATSUMOTO TAKASHI) 30 May 2002 (2002-05-30) abstract; figures	1,4,6
Y	---	5

-/- EXPRESS MAIL NO. EV47806775745

MAILED 01 February 2005

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *&* document member of the same patent family

Date of the actual completion of the international search

26 March 2003

Date of mailing of the international search report

09/04/2003

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax (+31-70) 340-3016

Authorized officer

Belibel, C

BEST AVAILABLE COPY

INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP 02/08630

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	PATENT ABSTRACTS OF JAPAN vol. 1998, no. 05, 30 April 1998 (1998-04-30) & JP 10 000528 A (HITACHI SEIKI CO LTD), 6 January 1998 (1998-01-06) abstract; figures ---	1,4,6
X	PATENT ABSTRACTS OF JAPAN vol. 1998, no. 13, 30 November 1998 (1998-11-30) & JP 10 211599 A (SATO DAIKI), 11 August 1998 (1998-08-11) abstract; figures 1-3,12-14 ---	1,4,6
A	PATENT ABSTRACTS OF JAPAN vol. 1999, no. 08, 30 June 1999 (1999-06-30) & JP 11 058084 A (HITACHI KOKI HARAMACHI CO LTD), 2 March 1999 (1999-03-02) abstract; figures ---	1,4,6
A	DE 100 07 542 A (BOEHRINGER DANIEL) 23 August 2001 (2001-08-23) abstract; figures ---	1,4,6
A	US 5 873 304 A (RUF HANS) 23 February 1999 (1999-02-23) cited in the application abstract; figures -----	1,4,6

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP 02/08630

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
JP 2002178196	A	25-06-2002	NONE	
US 5553534	A	10-09-1996	IT 1224364 B DE 68909940 T2 JP 8011618 B JP 3504232 T DE 68909940 D1 EP 0417137 A1 ES 2014089 A6 WO 8910886 A1	04-10-1990 11-05-1994 07-02-1996 19-09-1991 18-11-1993 20-03-1991 16-06-1990 16-11-1989
US 2002062745	A1	30-05-2002	JP 2002159950 A JP 2002361493 A	04-06-2002 18-12-2002
JP 10000528 6	A		NONE	
JP 10211599 6	A		NONE	
JP 11058084 6	A		NONE	
DE 10007542	A	23-08-2001	DE 10007542 A1	23-08-2001
US 5873304	A	23-02-1999	DE 4408138 A1 AT 166829 T CZ 9602514 A3 DE 59502412 D1 WO 9524307 A1 EP 0748276 A1 ES 2120188 T3 JP 9509891 T	14-09-1995 15-06-1998 12-02-1997 09-07-1998 14-09-1995 18-12-1996 16-10-1998 07-10-1997